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| EXAMINER |
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SHAN, APRIL YING

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| ART UNIT | PAPER NUMBER |
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2135

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/705,983

Applicant(s)

GINZBURG ET AL.

Examiner

April Y. Shan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/05 and 11/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-35 have been examined.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use. **The current applicant does not have Brief Summary of the invention. Please add Brief summary of the invention to the specification. Please see bolded item (g) below.**

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.**
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the

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specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves

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problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed

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in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

3. The abstract of the disclosure is objected to because in paragraph [0032],
“..between the first station the second station and the access point” should be
“..between the first station, the second station and the access point”. Correction is
required. See MPEP § 608.01(b).

Claim Objections

4. Claims 17, 19-21, 23, 26-28, 30, 33 and 35 are objected to under 37
CFR 1.75(c), as being of improper dependent form for failing to further limit the subject
matter of a previous claim. Applicant is required to cancel the claim(s), or amend the
claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in
independent form.

Accordingly, claim 17 is further treated on the merits depending on Examiner's
best understanding on claim 17 is a dependent claim of claim 16. Claims 19-21 are
further treated on the merits depending on Examiner's best understanding on claims 19-
21 are dependent claims of claim 18. Claims 26-28 are further treated on the merits
depending on Examiner's best understanding on claims 26-28 are dependent claims of
claim 25. Claims 33 and 35 are further treated on the merits depending on Examiner's
best understanding on claims 33 and 35 are dependent claims of claim 32.

Any claim not specifically addressed, above, is being objected as incorporating
the deficiencies of a claim upon which it depends. Appropriate correction is required.

5. Claims 1-10 and 32-35 are objected for the following informalities:

As per claims 1 and 32, "...between an access point and the first station and the access point and the second station" is not clear. For purposes of examination and based on the Applicant's specification, the claim is interpreted to read that "...between an access point and the first station and between the access point and the second station".

Any claim not specifically addressed, above, is being objected as incorporating the deficiencies of a claim upon which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 17, 19-21, 23, 26-28, 30, 33 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **claim 17**, it recites the limitation depending on "claim 17". How can a dependent claim depend on itself?

Accordingly, claim 17 is further treated on the merits depending on Examiner's best understanding on claim 17 is a dependent claim of claim 16.

As per **claims 19-21**, they recite the limitation depending on deficient "claim 17". Accordingly, claims 19-21 are further treated on the merits depending on Examiner's best understanding on claims 19-21 are dependent claims of claim 18.

As per **claims 26-28**, they recite the limitation depending on apparatus "claim 24". However, claims 26-28 recite wireless communication system, not apparatus. Accordingly, claims 26-28 are further treated on the merits depending on Examiner's best understanding on claims 26-28 are dependent claims of claim 25.

As per **claims 33-35**, they recite the limitation depending on wireless communication system "claim 31". However, claims 33-35 recite an article, not wireless communication system. Accordingly, claims 33 and 35 are further treated on the merits depending on Examiner's best understanding on claims 33 and 35 are dependent claims of claim 32. Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 11, 25 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Whelan et al. (U.S. Patent No. 6,965,674).

As per **claim 1**, Whelan et al. discloses a method comprising:
establishing a secured ("improved security of wireless local area networks" – e.g. col. 1, line 59) direct link between a first station and a second station ("The MUs may communicate on a peer-to-peer basis" – e.g. col. 1, lines 30-31 and col. 4, lines 11-14) of a wireless local area network ("Wireless Local Area Network (WLAN) security" – e.g. col. 1, lines 20-21) by exchanging two or more protocol messages ("The IEEE 802.11 specifications employ the Wired Equivalent Privacy (WEP) protocol to encrypt and decrypt the packets transmitted on the WLAN" – e.g. col. 1, lines 39 - 41) between an access point ("one or more base stations or Access Point (AP)" – e.g. col. 1, lines 27-28) and the first station ("one or more mobile stations or Mobile Units (MU)" – e.g. col. 1, lines 29-30) and the access point and the second station (e.g. col. 1, lines 27-38 and col. 3, lines 61-65).

Please note the background of the Whelan et al. reference described the direct link on the WLAN as the examiner cited above. The disclosed direct link on the WLAN remains the same through the whole reference of Whelan et al.

As per **claim 11**, Whelan et al. discloses an apparatus comprising:
a controller to establish a secured direct link between a first station
and a second station of wireless local area network by exchanging two or
more protocol messages with the first station and the second station (e.g. col. 3, lines 58-65 and col. 4, lines 11-13).

As per **claim 25**, Whelan et al. discloses a wireless communication system comprising: an access point that includes a controller to establish a secured direct link between a first station and a second station of wireless local area network by exchanging two or more protocol messages with the first station and the second station (e.g. col. 1, lines 27-38, col. 3, lines 60-65 and col. 4, lines 6-9).

As per **claim 32**, Whelan et al. discloses the claimed method of steps as applied above in claim 1. Therefore, Whelan et al. discloses the claimed instructions stored in a storage medium for carrying out the method of steps.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whelan et al. (U.S. Patent No. 6,965,674).

As per **claim 18**, Whelan et al. discloses an apparatus comprising: receive and transmit two or more protocol messages (e.g. col. 1, lines 39 – 41 and col. 5, lines 5-10); and a controller to establish a secured direct link between a first station and a second station of wireless local area network by exchanging the two or more protocol messages with the first station and the second station (e.g. col. 3, lines 58-65 and col. 4, lines 11-13).

Whelan et al. does not disclose expressly a dipole antenna. However, Whelan et al. discloses access points (col. 1, lines 27-30) and a means is able to receive and transmit two or more protocol messages (e.g. col. 1, lines 39 – 41 and col. 5, lines 5-10). To a person with ordinary skill in the art, the means can be a dipole antenna, the most common WLAN antenna.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate dipole antenna to Whelan et al.'s apparatus.

The motivation of doing so would have been dipole antenna is simple in design and it is a standard equipment on most access points in WLAN.

14. Claims 2-10, 12-17, 19-24, 26-31 and 33-35 are rejected under 35 USC 103(a) as being unpatentable over Whelan et al. (U.S. Patent No. 6,965,674) as applied above in claim 1, further in view of Wentink et al. (U.S. Pub. No. 2005/0135304)

As per **claims 2-5**, Whelan et al. discloses a method as applied above in claim 1. Whelan et al. does not disclose expressly receiving from the first station a request to establish the secured direct link, wherein the request includes communication rate information and encryption method information and wherein establishing comprises: sending to the second station a message to establish the secured direct link, wherein the message includes communication rate information of the first station and encryption method information of the first station, receiving from the second station a request to establish the secured direct link, wherein the request includes communication rate information and encryption method information and wherein establishing comprises: sending to the first station a message to establish the secured direct link, wherein the message includes communication rate information of the second station and encryption method information of the second station.

Wentink et al. discloses receiving from the first station a request to establish the secured direct link, wherein the request includes communication rate information

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and encryption method information and wherein establishing comprises: sending to the second station a message to establish the secured direct link, wherein the message includes communication rate information of the first station and encryption method information of the first station and receiving from the second station a request to establish the secured direct link, wherein the request includes communication rate information and encryption method information and wherein establishing comprises: sending to the first station a message to establish the secured direct link, wherein the message includes communication rate information of the second station and encryption method information of the second station (e.g. abstract, paragraph [0106]-[0111], paragraph [0115] – [0116], fig. 18 and fig. 19).

Whelan et al. and Wentink et al. are analogous art because they are from the same field of endeavor of secure direct wireless link in WLAN.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate receiving from the first station a request to establish the secured direct link, wherein the request includes communication rate information and encryption method information and wherein establishing comprises: sending to the second station a message to establish the secured direct link, wherein the message includes communication rate information of the first station and encryption method information of the first station and receiving from the second station a request to establish the secured direct link, wherein the request includes communication rate information and encryption method information and wherein establishing comprises: sending to the first station a message to establish the secured direct link, wherein

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the message includes communication rate information of the second station and encryption method information of the second station into Whelan et al.'s method.

The motivation for doing so would have been to "negotiate the capabilities of the proposed direct link", as taught by Wentink et al. (paragraph [0115])

As per **claims 6 and 7**, the combined teachings Whelan et al. and Wentink et al. further disclose selecting a supported communication rate from a set of communication rates (Wentink et al., e.g. paragraphs [0102] and [0106]) and wherein selecting comprises: selecting the supported communication rate from a subset of said set of communication rates, wherein the rates in said subset are supported, at least in part, by both the first station and the second station (Wentink et al. e.g. paragraphs [0102] and [0106]).

As per **claims 8-9**, the combined teachings Whelan et al. and Wentink et al. further disclose comprising:

selecting an encryption method supported by both the first station and the second station (Wentink et al. e.g. paragraphs [0106], [0109] and [0116]);

and

generating pair-wise keys according to the selected encryption method (Wentink et al. e.g. paragraphs [0106], [0109] and [0116]);

and wherein generating comprises:

generating unicast pair-wise keys for encrypting a data packet (Wentink et al. e.g. paragraphs [0107] and [0116] and Whelan et al. – e.g. col. 1, lines 39-41); and
generating unicast pair-wise keys for decrypting the data packet (Wentink et al. – e.g. paragraphs [0107] and [0116] and Whelan et al. – e.g. col. 1, lines 39-41).

As per **claim 10**, the combined teachings of Whelan et al. and Wentink et al. further disclose a method as applied above in claim 8. Wentink et al. further discloses wherein selecting the encryption method comprises:

selecting the encryption method from a group of robust security network encryption methods (e.g. paragraph [0116]).

As per **claims 12-13**, they are rejected using the same rationale as for rejecting claims 2-7.

As per **claim 14**, it is rejected under the same rationale as for rejecting claims 8-10.

As per **claims 15-17**, the combined teachings of Whelan et al. and Wentink et al. further discloses comprising a key generator to generate pair-wise keys according to the encryption method (Wentink et al. – e.g. paragraphs [0109] and [0116]) and wherein the controller is able to generate two or more response messages that include a subset of communication rates and the pair-wise keys (Wentink et al., e.g. paragraphs [0102] ,

[0106] and [0115]-[0116]) and further comprising a transmitter to transmit the response messages to the first station and to the second station (Wentlink et al. – e.g. paragraph [0109]).

As per **claim 19**, it is rejected using the same rationale as for rejecting claims 2-5.

As per **claim 20**, it is rejected using the same rationale as for rejecting claim 7.

As per **claims 21 and 23**, they are rejected using the same rationale as for rejecting claims 8-9.

As per **claims 22 and 24**, the combined teachings of Whelan et al. and Wentink et al. further discloses comprising a key generator to generate pair-wise keys according to the selected encryption method (Wentlink et al. – e.g. paragraphs [0109] and [0116]) and comprising a transmitter to transmit the response messages to the first station and to the second station (Wentlink et al. – e.g. paragraph [0109]).

As per **claim 26**, it is rejected using the same rationale as for the rejecting claims 2-5.

As per **claim 27**, it is rejected using the same rationale as for the rejecting of claim 7.

As per **claims 28 and 30**, they are rejected using the same rationale as of rejecting claims 8 and 16.

As per **claims 29 and 31**, they are rejected using the same rationale as for rejecting claims 22-24.

As per **claims 33-35**, the combined teachings of Whelan et al. and Wentink et al. disclose the claimed method of steps as applied above in claims 2-4. Therefore, the combined teachings of Whelan et al. and Wentink et al. disclose the claimed instructions stored in a storage medium for carrying out the method of steps.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See PTO-892)


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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


29 January 2007
AYS


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100